Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
Innovation in the Broadcast Television Bands:	)	
Allocations, Channel Sharing and Improvements	)	ET Docket No. 10-235
To VHF	)	

To: The Commission

The Commission has proposed to repurpose up to 120 MHz of spectrum from the UHF broadcast television band. Metro TV, Inc. ("Metro"), is a licensee of Class A and Low-Power Television stations. Metro hereby opposes said repurposing as proposed.

BACKGROUND

The UHF band has been in existence since the early 1950's. It first comprised channels 14 – 83[1]. The upper channels from 70 – 83 (806 – 890 MHz) proved to be less than desirable, and although translators existed for decades on those frequencies, only a few full-power stations ever came into existence. That spectrum was then repurposed for analog cellular telephone use. The modified UHF TV band then consisted of channels 14 – 69 (470 – 806 MHz). Additionally in the XX largest markets, certain channels between 14 – 20 have been reserved for land mobile communications and are not presently available for television broadcasting.

As compared with the VHF television band, the Allocation of channels in the analog UHF television band was highly inefficient due to the UHF "taboo" characteristics as allotments required unusual channel spacings per any given geographic area.

[1] Channel 37 was and is still reserved for Radio Astronomy purposes and is not available for broadcasting.

Channels were not permitted to be 1st, 2nd, 3rd, 4th, 5th, 7th, 8th or 15th channels above or below another local channel. Although the majority of these taboos were due to inferior receiver designs, they nonetheless restricted the amount of available channels. In many markets, many UHF stations had a six-channel spacing (14, 20, 26, 32, 38 etc.). Due to adjacent markets, or other factors, allotments were typically spaced six channels or more (e.g. Philadelphia Metro: 17, 23, 29, 35, 48, 57). Canada did not recognize the 5th channel as being any worse than the 6th channel and adopted the use of a 5-5-6 sequence which was slightly more spectrally efficient.

DTV TRANSITION AND PROPOSED REPACKING

The transition to digital television mandated that receiver designs be such that the taboo problem be eliminated and in fact, so well designed that, in most cases, first-channel adjacent stations could co-locate or nearly do so.

Despite the reduction in spectrum, television stations have enjoyed employing the new technology and have been continuously developing more program offerings on the digital sub-channels. While some segments of Congress, the White House and the FCC further wish to reduce UHF spectrum for television broadcasting, it simply cannot be done at this time. The FCC was in a hurry to implement the transition to digital television in order to free up channels 52 – 69 and just couldn't wait until the H.264 (mpeg4) codec was perfected. As a result of its impatience, the present ATSC-8VSB-DTV system was designed to utilize the lesser efficient mpeg2 encoding. This is a far cry better and more efficient than Japan's original 12 MHz system. However, further band repacking would first require an orderly transition to H.264. The Commission is attempting to put the cart before the horse. Properly done, any such conversion must

follow the same steps as with the original conversion. First, a transition to H.264 encoding, then, repacking two stations into a six MHz slot. In fact, then each and every station would only require 3 MHz for its own unique license. The sharing of facilities, as the FCC is proposing for two stations, is ridiculous. Which licensee is responsible for technical compliance? If the stations' equipment chain (transmitter, modulator, multiplexer, transmission line or antenna) fail, then two stations will be off the air instead of one which causes less reliable service to the public. How is it decided who gets to have a better HD signal? 1080i requires a higher bit rate. Are only 720p stations to be repacked together, or does the public have to suffer with inferior performance when two 1080i streams are jammed together leaving no room for additional services? Who is the Commission to decide that 9.7 Mbps satisfies the needs of the licensee or the public for the technical quality that they have grown to expect? As it is, even today's most sophisticated Mpeg2 HD encoders can barely handle abrupt luminance changes especially in combination with motion such as that found in musical stage performances where lighting and movement change rapidly. When television stations converted to DTV, they were promised that the investment would yield a great ROI due to the ability to be able to provide multiple program streams. Stations were not required to develop any type of business plan or promise a "maximum" number of streams to be implemented at the time they first converted, or was there any such requirement when the permanent analog shut-off date was announced. In addition, multiple program streams did not perform well with early equipment until statistical multiplexing was perfected. Even then, were stations supposed to just dispose of encoders that were just only a few years old and cost $20,000 - $50,000 per encoder? As equipment and budgets allowed, stations

began and are continuing today to employ better equipment to offer more services within the same bandwidth. In conjunction with stations implementing newer equipment, more programming services are becoming available everyday.

Whether it be full-power, low-power or Class A stations, one of the encouraging reasons for converting to DTV was the ability to offer more programming services. In doing so, broadcasters believed they were being given an opportunity at a new economic model for television. They believed they could further develop to become competitive multi-video service providers. The more programming services, the more likely that people would find that a full complement of free over-the-air television programming has just what they want and need. It would not be uncommon for the average home to receive 30 or more program services. No longer would the ever increasing costs of cable, satellite or fiber delivered television be necessary to those individuals and homes not wanting the comparatively greater cost associated with hundreds of channels forced on them by a subscription of anything more than the equivalent of "basic cable."

Television stations expected, and rightly so, that the precious funds they were expending for the digital conversion were being done so to provide additional services to the public and to provide for new revenue streams. What the Commission is proposing will do the exact opposite. That is, it will cripple the broadcast television industry and cause its demise. It is mandatory that a full study be performed of the economic impact to the broadcast television industry. Additionally, the Constitution of the United States requires that the "taking of property" requires "just compensation." Although a licensee of a broadcast station does not hold any permanent right for any particular frequency and that the public technically "owns" the airwaves, there is no question that as a

"stakeholder" a licensee is charged with the requirement of serving the public, and through the reduction of its existing bandwidth, it would be stripped of a valuable asset. To the end that the public may be less served through actions solely of interests of the federal government and the FCC, that in itself triggers the threshold for qualifying for protection under the aforementioned constitutional provision. Further, the proceeds of any auction which results in the sharing of any 6 MHz block, should be afforded to all of the sharers of the particular block. Whether it would be shared equally or disproportionately would still need to be determined.

ALTERNATIVE REPACKING PROPOSAL

The FCC must also be willing to compromise on its position of absolutely, positively needing 120 MHz of UHF broadcast spectrum. Studying just the New York City market alone reveals that with a reduction of the UHF television spectrum from channels 14 – 30, in combination with land mobile assignments including channels 14, 15, 16, 19, and 20 (which also encompasses overlapping land mobile for Philadelphia), not enough spectrum is available to repack full-power stations, let alone Class A, LPTV stations and television translators. Likewise, markets in close proximity to Canada such as Buffalo, NY, or Burlington, VT-Plattsburg, NY would face a complete lack of the possibility for repacking due to the accommodation of existing Canadian assignments.

The wireless broadband industry favors full reclamation of the frequencies occupied by UHF –TV channels 31 – 51. However, they have also stated that contiguous blocks of spectrum are needed. Since channel 37 (608 – 614 MHz) is and will continue to be reserved for Radio Astronomy, the Commission should consider an alternate plan of using the natural boundary of channel 37 to separate the UHF television band and that

proposed for broadband. Retaining channels 14 – 36 may provide not only enough spectrum for full power stations in the largest markets, but for Class A and LPTV stations as well. The Commission must also consider the objective of Section 307(b) of the Communications Act in continuing to provide for the availability of new television stations. Retaining channels 14 – 36 would better achieve that objective.

VHF MIGRATION

In the "Innovation," the Commission is suggesting that the VHF television band usage could be improved through a combination of increased power and improved receiving antenna performance. While power increases may provide some degree of improvement, the idea of requiring indoor VHF receiving antennas to have minimum performance standards is absurd. First, a requirement that antennas meet a minimum gain of -12 dBd on VHF low-band and -8 dBd on VHF high-band is stating the equivalent transmitting power would have to +12 dB and +8 dB respectively on the transmitting end. A roughly ten-fold increase on transmitting ERP would be extremely costly and may be technically unachievable in the practical world. Secondly, there is no way to determine how any "VHF antenna of the future" would perform under widely varying indoor receiving locations. Would such antenna perform successfully in a ground-level apartment of a thickly walled concrete and steel building in the heart of a densely populated city as compared with a second story bedroom of a typical wood frame home? The answer is that it would be highly unlikely. The idea of "verified" performance for receiving antennas is ill-conceived.

Increased power, especially for VHF low band stations, is always welcomed. Reception problems were recognized by virtually everyone early on in the transition to

DTV. In fact, Industry Canada determined that a 7 dB increase was required over that determined by the FCC for replication of a station's equivalent analog service area. That is to say where 100 kW ERP was the maximum power for analog on channels 2 - 6, and 10 kW ERP was determined as the DTV replication equivalent by the FCC, Industry Canada disagreed and determined that 50 kW ERP for DTV approximated equivalent coverage and as such authorized that value as the maximum power. Thus, regardless of any possible improvements to receiving antennas, additional transmitting power for VHF is common sense.

SUMMARY

In having made a determination that an additional 500 MHz of spectrum is needed to satisfy future broadband demand, more effort should be placed on searching for spectrum elsewhere than removing spectrum from broadcast television. The idea that the National Broadband Plan would seek further reduction of the UHF television band less than one year after the mandatory shut-off date is not in the public interest. If and only if no other spectrum can be found, the UHF television should not be reduced by such a drastic amount and the Commission should consider reclaiming only 84 MHz (channels 38 – 51).

Respectfully submitted,

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